ALMA MATER STUDIORUM – UNIVERSITA' DI BOLOGNA

Second Cycle Degree in
"Digital Humanities and Digital Knowledge"

Voci da Selinunte

A storytelling project enhanced with AR

Design Brief for the final project of the course
Digital Heritage and Multimedia (I.C.)

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1. Introduction

Voci da Selinunte is a **storytelling** project exploiting **Augmented Reality** technologies. It is created specifically for **students attending classical high schools** and has a **didactic** and **educational scope**, namely to deepen the knowledge about the **culture** and the **story** of **Magna Graecia** by reconstructing the ancient city of Selinunte through the voices of ancient Greek authors. In particular, the project introduces the story of the city and its rediscovery, then it virtually reconstructs the ruins of the city rebuilding the temples, the Acropolis, and the Necropolis allowing visitors to physically move into the reconstructed city by choosing one of three predefined **paths**. A virtual guide and narrator, the historical figure of **Tommaso Fazello** who first rediscovered the city after a long period of oblivion, accompanies visitors throughout the visit experience and helps them to move around the site. Therefore, our goal is to provide the schools with an alternative didactic instrument, adding digital storytelling based on historical and literary resources to the simple virtual reconstruction of the architecture. In this way, the visitors are also involved in an **authentic experience** while **extending** their **knowledge** about the place and its culture.

2. The context

2.1 Location and Content

Voci da Selinunte is a storytelling project that exploits AR technologies to narrate the history of the ancient Sicilian city of Selinunte. The city is in the southwest part of Sicily, in Italy, precisely in the province of Trapani facing the sea. Nowadays Selinunte is home to the largest archaeological park in Europe (ca 270 hectares) and preserves the ruins of Greek constructions pertaining 3 different areas:

- the **western** part, with the Manicalunga necropolis and the sanctuary of Malophòros;
- the **middle** part, with the Acropolis and its temples and fortifications;
- the **eastern** part, with the Galera Bagliazzo necropolis and temples (G, E, F).

Figure 1: Map of Selinunte archaeological park

Selinunte was established in 628 BC and its name is derived from *σέλινον* (*sélinon*), which in the Greek language means "celery", referring to the plant that grows in this place and which also became the symbol reproduced on the ancient coinage. The ancient city had a life span of 240 years during which various natural (earthquakes) and warlike events occurred, including the sacking and destruction by the Carthaginians in 409 BC. After this event, despite a brief period of peace, the city never fully recovered and the area was abandoned by settlements, and the memory of the city itself was lost.

Figure 2: A portrait of Tommaso Fazello.

About a thousand years later, Selinunte was rediscovered thanks to Tommaso Fazello, an archaeologist and religious member of the Order of Preachers. Thanks to the reading and studying of ancient authors (e.g. Herodotus, Diodorus Siculus, Thucydides, Strabone, Pausanias, Ptolemy and Pliny) he was able to identify the exact geographic area of the city in 1551. His research resulted in a historical work entitled *De Rebus Siculis Decades Duae* (Fazello 1817), which earned him the nicknames of *Padre della storia siciliana* and *Livio siciliano*[1]. Since then, the first excavations began in 1822-23 by two English archaeologists, William Harris and Samuel Angell. They found three metopes of Temple C that they tried to bring to the British Museum in London, but the expeditions were diverted to Palermo. Here, in the Archaeological Museum "Antonio Salinas" the metopes are now preserved together with other decorative parts of Selinunte temples, except for the most famous piece, the Ephebe of Selinunte, kept at the Selinuntino Civic Museum of Castelvetrano (Calcara and Bonanno 2019). Numerous other excavations followed in the XX century bringing the city to the attention of new scholars and visitors and leading the archaeological area to be identified as a world heritage site.

Despite the fascinating history behind the rediscovery of the place as well as the importance of Selinunte for the Ancient Greek culture (Iannucci and Muccioli 2015), the archaeological site has not yet been recognized as UNESCO cultural heritage and even the local promotion is insufficient compared to other archaeological sites nearby, like the well-known Valley of Temples in Agrigento.

The insufficient attention paid to promoting the site can be seen also in the available online assets: a website describing each part of the archaeological park together with the story of Selinunte is available online, but it is outdated as can be seen from the low-quality of the images and photos documenting the site and the unavailable linked resources like the YouTube video tours.

2.2 Star Assets

Apart from the issue mentioned above (cf. Par. 2.1), some **star assets** can be identified to work with within this project: (i) the **location**, (ii) the **outreach activities** and (iii) the **Ancient Greek culture**. To deepen these three aspects and retrieve information, we identified three resources regarding each asset: (a) the online page dedicated to the archaeological park of Selinunte within the official site of the region of Sicily to delve into the location; (b) the official site of the regional Archaeological Museum "Antonino Salinas"[2] for the connection between the archaeological area and regional museums; finally, (c) a 3D reconstruction in 16 episodes on YouTube made by an independent

[1] https://en.wikipedia.org/wiki/Tommaso_Fazello.
[2] https://www.coopculture.it/it/poi/museo-archeologico-regionale-antonino-salinas/.

scholar to delve into the history and the context of the city[3]. In addition, Wikimedia[4] offers good photographic documentation of the archeological site of Selinunte and of the decorative artefacts preserved in regional museums.

2.3. Goals

We identified different goals dividing them into two main categories: **institutional** goals and **cognitive** goals.

1. **Institutional goals** regard the use of available **assets in new ways**, meaning the exploration of the city and its reconstructed ruins by exploiting AR technologies going beyond the usual visiting paths currently provided. This goal is connected to another institutional goal identified which concerns the **increase of educational activities**, mainly addressed to students attending classical high school: thanks to AR technologies it is possible to reconstruct the context of Selinunte and to develop a storytelling useful to enhance knowledge about the Ancient Greek culture. If reached, this goal should become a key to solve the last institutional goal for this project, namely the **increase of visitor participation** in the visiting experience of the archaeological park.
2. **Cognitive goals** focus on creating an **authentic experience** for the visitors and increasing their **sense of care** towards the cultural heritage, both in its material form, witnessed by rests and ruins, and in its immateriality, through the recalling of the atmosphere and story of Magna Graecia. To achieve it, we consider concentrating on the mechanism of **interaction and feedback between visitors and environment** and creating an appropriate mood stimulating the five senses. Therefore, we want the user to exit the visiting experience with an **extended knowledge** which is our last cognitive goal.

2.4 Target Audience

The project has been developed for a specific audience, i.e. **students at classical high schools** coming from **different regions** of Italy. The choice fell on this audience because Selinunte was a colony of Magna Graecia from the 8th century BC (Giangiulio 2021) so it is an effective example of Greek culture and story taught in classical high school. Moreover, regarding Sicilian students, the engaging in this experience could develop a stronger sense of identity and connection with their territory and history, knowing more about traditions and culture coming from the Greek domination. Students from other Italian regions might know, instead, something new by visiting a place they would not normally see.

For these reasons, the project has an **educational objective**, becoming a useful teaching tool to deepen the training courses normally provided by schools and to help teachers to involve students in a more interactive manner. In fact, the experience aims at presenting the story of Selinunte throughout a storytelling involving the voices and the works of Ancient Greek authors (for instance, Herodotus and Diodoro Siculo).

The involvement of students and teachers could also lead to an **increasing number of visitors** to the Selinunte archaeological park. Therefore, other archaeological sites nearby, like Segesta which has a strong connection with Selinunte, could become more attractive besides the more famous Valley of Temples in Agrigento.

[3] https://www.youtube.com/watch?v=7lnOMnFn0w8&list=PLlvD_kPCklfr5jM4Pmp4UQCRV469x53hf&ab_channel=flippedprof.
[4] https://commons.wikimedia.org/w/index.php?search=selinunte&title=Special:MediaSearch&go=Go&type=image.

3. The audience

As mentioned above (Par. 2.4), we decided to focus on students attending classical high schools as our target audience. Considering the class has an average of 30 students, we want students to be divided into **groups** of 7/8 people to make them interact not only with the devices but with each other, to enhance their **cohesion** and make them develop their ability to **collaborate**. Moreover, we consider having at most two classes to better manage the visit.

During the design process of the personas, we decided to focus on two kinds of students with different backgrounds and different degrees of interest in the visit. We also designed two different kinds of teachers that should accompany each group during the visiting experience. Teachers have different interests and backgrounds too in knowing and using technologies, as well as different ages.
For each persona we identified: the expectations that he or she may have during the visit (i.e. Goals), the obstacles to achieving the goals (i.e. Frustrations), and the reasons for taking part in the visit (i.e. Motivation).

Our fictional characters can be seen below.

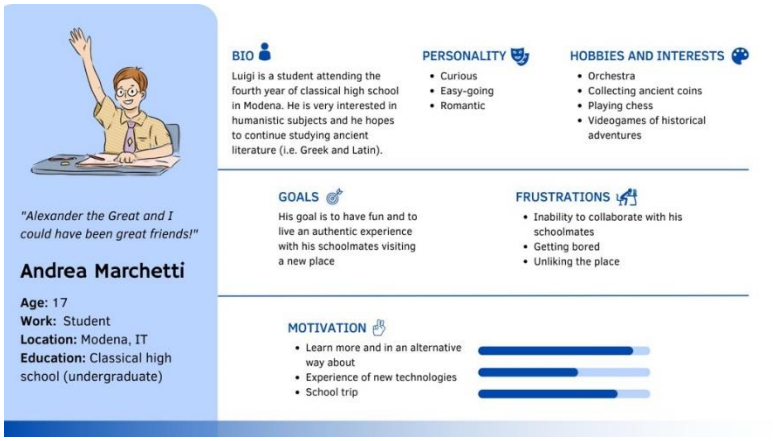

Figure 3: Persona 1

Andrea M. is our student coming from north of Italy and he is very interested in knowing more about Greek culture but the connection with roots and traditions of Sicily is not relevant for him since he was born and raised in Modena. He loves playing videogames, especially those set in Ancient Greece, so he is familiar with technologies but never experienced Augmented Reality. So, what we want to do with Andrea's tour is to make him discover the power of immersive experience, making him wonder but also learn more about the culture he loves through storytelling where he can act like an avatar in a video game.

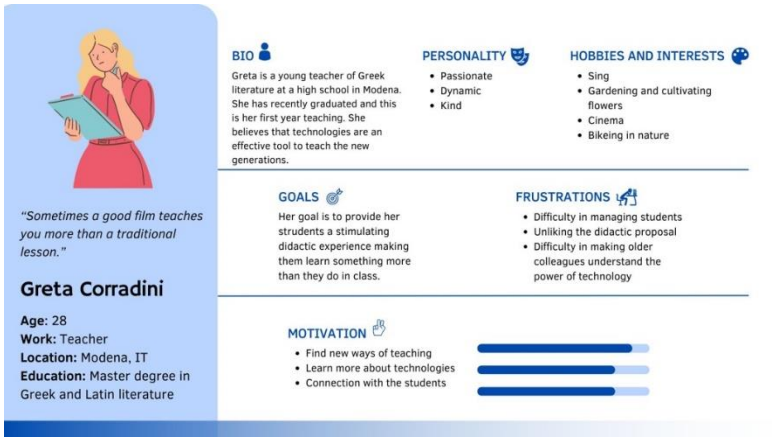

Figure 4: Persona 2

Greta C. is a young teacher at a high school in Modena. This is her first-year teaching and her first school trip. She is very passionate and loves her job, but she has also a little experience in managing young students, so she sometimes feels a little bit frustrated, especially when not in class. However, students love her because she is kind and makes them learn in non-traditional ways, since she knows how to use some technologies. For these reasons she can take advantage of our tour as another non-conventional didactic path to add to her didactic proposal. Moreover, this is also a way for her to increase her knowledge about different technologies since she is very curious to try AR technologies for seeing the reconstruction of Ancient Selinunte. Finally, the tour is also a way to share with her students a common authentic experience on which they can discuss and, why not, have fun, generating new stimulating connections. If satisfied, Greta could also become a sponsor of our experience outside Sicily, talking with her colleagues and convincing them, maybe the older ones too, to visit Selinunte with their students.

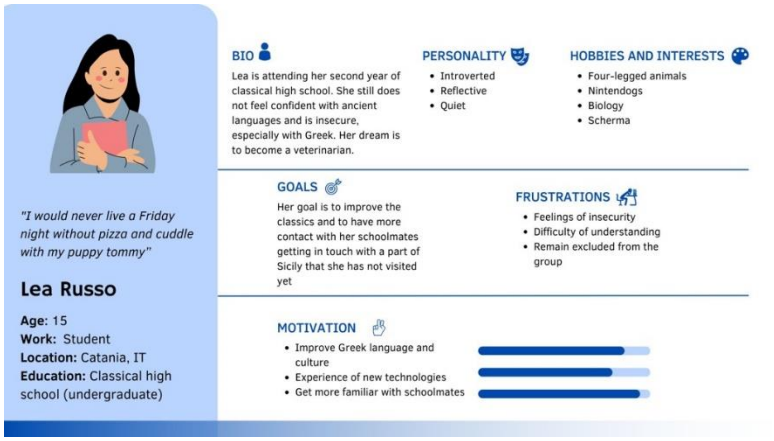

Figure 5: Persona 3

Lea R. comes from Catania (Sicily, Italy) so she is motivated to get in touch with her region and to learn something new about her origins visiting a new place. Compared to the student Andrea, Lea does not feel confident with humanistic subjects, especially with Greek and Latin language. She indeed prefers scientific

subjects like mathematics and biology. She is not very extroverted, and she has made few friends in class. For that reason, our goal is to involve Lea during the visit thanks to the use of new technologies and to make her feel comfortable together with the other schoolmates. The AR technologies could also prove effective in overcoming her insecurities related to ancient languages by having fun while learning.

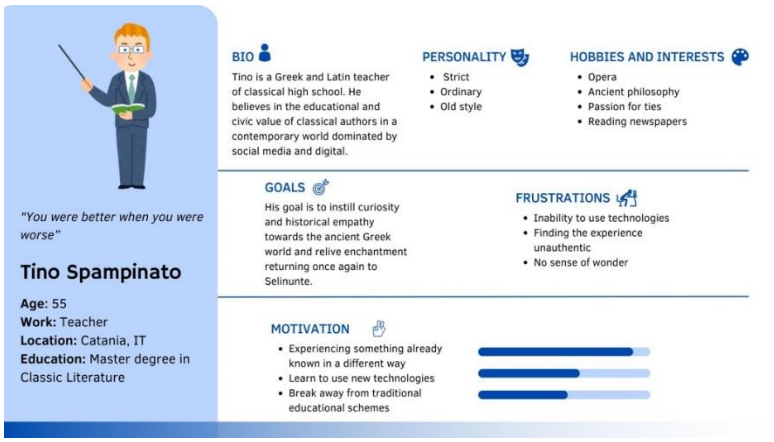

Figure 6: Persona 4

Tino S. is a traditional teacher of Greek and Latin language and culture. He is not exactly the kind of user that we may attract not only because he cannot use technologies but especially because he does not like them. He indeed uses an old-style smartphone only for staying in touch with her parents and few friends; his computer is broken, and he persists not to fix it. Tino is fan of traditional lectures to teach students about classical authors: he reads entire chapters of ancient philosophy, and he believes that the knowledge of ancient world will save us from the contamination of social and digital media. The decision to take part in the visit was forced by his colleagues who stressed the importance of teaching in an alternative way and in step with the times to involve all the students with different interests and capabilities. By illustrating to him how to use AR technologies and explaining the connected advantages in the didactic, the presence of ancient authors' texts within an innovative context could stimulate to him a sense of wonder visiting a place that he has already visited several times.

4. Concept

The following conceptual map helps to understand the idea behind the project, but also the main aspects related to the cognitive focus and the target user we have chosen.

Figure 7: Conceptual map of the project

As shown in the conceptual map, the project aims at creating storytelling through AR technologies to rediscover and relive the Ancient Greek city of Selinunte. Considering Bertin's pedagogical problematism which presents in the educative system not only the intellectual dimension but also the aesthetic-affective one (Bertin 1995), our project's main cognitive focus is **authenticity** (cf. Par. 2.3) because we want to provide the visitors with an experience where they are connected both to the park and to each other. For this reason, the target user is plural, namely groups of students attending the same class of classical high school. Moreover, our project should face the institutional goals already presented regarding the increase of **educational activities** (cf. Par. 2.3). To achieve our cognitive and institutional goals, we had to face some problems and barriers related to the specificities of the location and the target user.

More in-depth, the project considers firstly the problems connected with the fruition of an archaeological park that has specific characteristics like the extent (as we said above, it's the biggest park in Europe), connected with the physical fatigue of the visit and the numerous monuments and areas to choose among. To overcome this problem, we chose to divide the experience into three paths corresponding to the three areas of the archaeological park (cf. Par. 2.1):

1. The **western** part with a focus on the Selinuntine cult
2. The **middle** part concerns the habits and customs of Ancient Greece
3. The **eastern** part aims at deepening the decorative Greek art

The choice of each theme reflects the related function connected to the location. The western part includes indeed the Manicalunga necropolis and the sanctuary of Malophòros which is the oldest place of worship in Selinunte. The middle part preserves instead the ruins of the Acropolis with its temples and fortifications so it might be useful to show the everyday life of Selinuntines. Finally, the eastern part presents most of the temples of which the metopes are nowadays preserved in the Archaeological Museum of Palermo. Creating a specific path focusing on these metopes could be of great value not only for an in-depth study of the decorative Greek art but also to create a bridge between the archaeological site and the Sicilian institutions. The choice of creating different itineraries aims at providing schools vertical didactic paths focusing on a few elements but treated in a detailed manner. In this way, the visit can be easily included in the educational offer of classical high schools, providing students and their teachers with an alternative way of studying while enjoying the history of the park and the cultural heritage site.

Another problem related to this kind of visiting experience concerns the possibility for some students to get bored. To overcome this specific problem, we decided to **create an appropriate mood** through the **combination of visual** and **audio** entertainment exploiting AR technologies to stimulate students while they learn. AR is indeed a perfect example of what Brooks calls "**intelligence amplification**" (Brooks 1996): the use of a specific tool could help to more easily acquire new knowledge in a new and exciting way.

To help visitors enter the atmosphere of the history of Selinunte and make them feel familiar with the environment, we decided to develop an introductive part using storytelling techniques choosing a dedicate tool, namely Twine[5], useful to build non-linear and interactive stories. This story is inspired by the real events that occurred during the rediscovery of Selinunte and takes Tommaso Fazello as the virtual guide of the tour around the site (cf. Par. 2.1). As an introduction, the story is designed for all the paths providing the visitors with a complete context and a starting point for the exploration of the chosen area.

For this project, we decided to present one of the three paths as an example to be replicated, namely the one dedicated to the eastern part of the archaeological site, with a specific focus on temple E (or Temple of Hera) and its metopes. In Par. 6 we will present in detail all the steps of the visit within the mentioned path.

[5] https://twinery.org/

Figure 8: Temple E (or Temple of Hera)

The following map summarizes the aspects addressed up to here:

Figure 9: Conceptual map

5. Requirement

We decided to have our groups of students interact with one device per group, namely the **tablet**, a typology of device they most likely know to use. This would allow them to experiment collective vision of monuments in AR and to listen to the audio content altogether too. Therefore, we prioritize the two aspects of vision and audio into the context of the storytelling, putting the **real-life** experience at the same level as the **fictional** reality. The purpose was indeed to add something more to the ordinary experience of a visit, providing students with elements of context, telling them a story about the place in ancient times, but also about its rediscovery in modern times.

In addition to that, we believe that this kind of experience could be of great help in avoiding the risks connected to the loss of concentration. The multimodality (vision and audio) in correlation with a virtual guided tour that allows the visitors to move in and out the real and fictional worlds, could be successful strategies in reducing the distraction, **stimulating** the **curiosity** and enhancing the **sense** of **wonder**.

Considering the two macro categories of students subdivided by region of provenance, we want to inspire the sense of wonder not only for non-Sicilian students that have never seen the place, but also for the Sicilian ones who could know something more about their territory and feel more connected with their origins, showing something perhaps already known under a new perspective.

6. Ideation

6.1. The story within the visiting experience

As soon as the students of the same class arrive, they are divided into small groups of 7/8 people. Each group is accompanied by a teacher of the class who should organize students according to different interests and create groups of students that usually don't spend time together in the class. This last requirement is thought to encourage the students to cooperate and get closer to each other.

After creating the groups and giving 1 tablet per group, a museum educator working for the archaeological park gives them a brief introduction about the place and the device to be used during the visit.

Once turned on the tablet, they are projected into an unknown context where, through interactive storytelling, they enter step by step the history of the ancient city and its rediscovery (which is the perspective through which the narrative is constructed).

During the interactive story, they get to know Tommaso Fazello who is intended to be their virtual guide throughout the entire visit. This character is inspired by the real historical figure who was responsible for Selinunte's rediscovery in 1551 thanks to his studies of ancient authors' works and several journeys around Sicily. Telling all these events, Tommaso Fazello introduces the visit to the archaeological park explaining its historical importance and value within the history of Ancient Greece.

The interactive storytelling is implemented with Twine and all the passages of the storytelling are organized and connected as below. The entire UX Scenario is linked in the dedicated chapter (i.e. Par. 10).

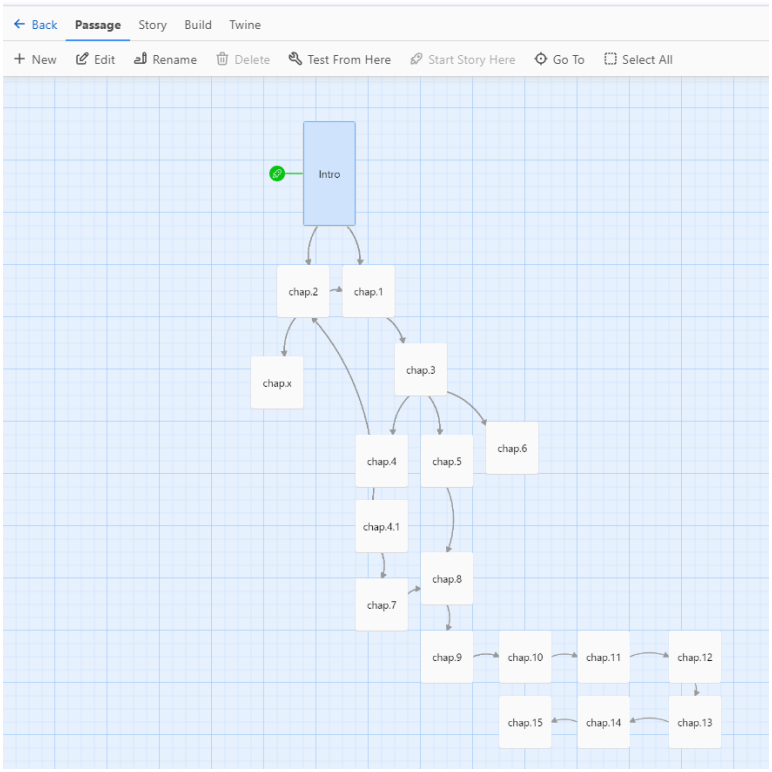

Figure 10: UX scenario with Twine

Once this phase is concluded, the second part regarding the concrete experience of the visit around the city starts. This stage is organized into 3 paths connected with the geographic division of Selinunte given by the archaeologists: the students are invited to change the display of the tablet and reach the three paths to choose. In this phase of the project, we decided to develop just the path dedicated to the visit in the eastern part of the park. Always with the supervision of Tommaso Fazello, students are given some guidelines to use the tablet during the visit to the different parts of Selinunte related to the chosen path.

Each group with its corresponding teacher goes around the archaeological site and the AR tools provide them with the possibility to see in real-time the reconstructed temples and compare them with the actual state of the temples and their ruins. Moreover, to achieve the appropriate mood of the visit and consider different senses, the young visitors can also interact with the AR objects, i.e. activating some icons and buttons in the tablet connected with the vision of the reconstructed scenario. The goal is to put together the vision of the temples and sounds evoking ancient atmosphere through authentic historical sources. Azuma, concerning the possibilities of AR, claims as follows:

> «Augmented reality enhances a user's perception of and interaction with the real world. The virtual objects display information that the user cannot directly detect with his own senses. The information conveyed by the virtual objects helps a user perform real-world tasks» (Azuma 1997).

In particular, the buttons can enable audio or images. In the first case, the audio concerns actors who read parts of ancient authors' works related to the story of Selinunte and specifically the scene students are looking at.

Regarding the images, just clicking on some buttons it is possible, thanks to AR technologies and techniques of virtual reconstruction, to recreate the original state of the temple, seeing the metopes in their original position.

These metopes are a perfect example of decorative Greek art but they are not attached to the Temple anymore (Marconi, 2007). Nowadays, we preserve only some of the overall amount of the original metopes in different states of conservation within the Archaeological Museum of Palermo. As a further development, an interesting integration of the project could be the digital restoration of the metopes since they lack some parts.

Within the eastern part path, the presentation of the metopes is an interesting focus both on the decorative Greek arts (Lippolis et al., 2007), for the great value and peculiarity of these masterpieces, and on the myth, since scenes of major Greek mythological stories are sculpted. In particular, the metopes considered in the visiting tour are those once decorating Temple E (Marconi, 1994). Indeed, the virtual guide Tommaso Fazello brings the groups of students in front of the ruins of this temple and, after explaining the story about its partial reconstruction in 1959, he invites visitors to look at the screen for the reconstructed AR temple. Moreover, he explains the importance of the metopes and proceeds to invite students to explore each single piece of art.

In particular, Tommaso Fazello explains the importance of Selinunte concerning the presence of these metopes: the city was indeed the only Greek city in Sicily that adorned its temples with stone sculptures and these metopes are examples of the art of sculpting, the most immediate and continuous manifestation of the vitality of Selinunte, from the foundation of the city since the very disruption and abandon. After this introductive part comes the more interactive one in which Tommaso Fazello encourages visitors to find out what is represented in the scenes. Students have to guess who the represented figures are by talking to each other and interacting with the images they see digitized through the tablet. Some hints are given by the virtual guide who, after some time, proceeds to present the scenes. The scenes are all representations of famous Greek myths:

- Story of Artemis and Atteon (fig.14)
- Story of Heracles and Pensilea (fig.15)
- Story of Athena and Enceladus (fig.16)
- Story of Zeus and Hera (fig.17)

In this last part of the visit, the characters of the stories in the metopes tell the story through their voice (once again audios with narrating voices are associated with the image), completing the experience with another storytelling.

Figure 11: Metope with Artemis and Atteon

Figure 12: Metope with Heracles and Pensilea

Figure 13: Metope with Athena and Enceladus

Figure 14: Metope with Zeus and Hera

6.2 The interaction between the applications and the users

A tablet is the best solution for the visit to achieve the cognitive and institutional goals mentioned above (cf. Par. 2.3). Students from 14 to 18 years old use mobile devices in their everyday lives, so they can have an authentic experience and feel comfortable interacting with the environment through a tablet. This kind of device is also easy to take and use during the visit around the big park, showing itself as a means of communication between students and our project. The following **Interaction Diagram** summarizes this communication:

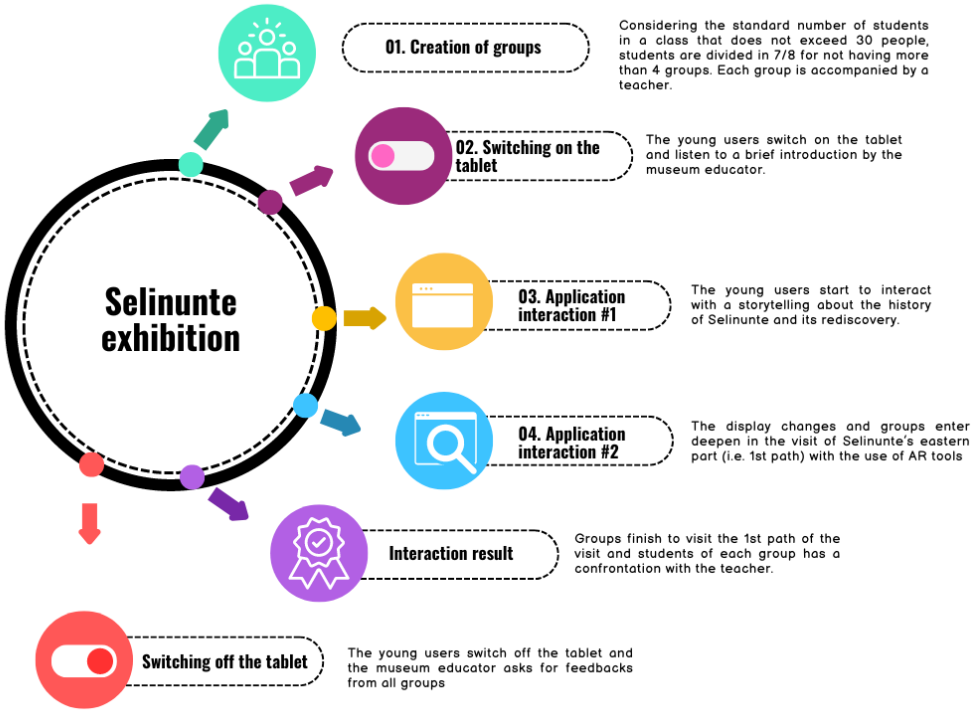

Figure 15: Interaction Diagram

The diagram highlights the interaction process between the tablet and the young users. As stated in Par. 6.1, the interaction is divided into two phases: the first one corresponds to a first introduction to the history of Selinunte and its rediscovery by the historian Tommaso Fazello; the second one is dedicated to the visit of the archaeological park and particularly of the eastern part, the only one at this point implemented, where most of the temples are preserved. Both two interactions present some tricks to make the interaction between the tablet and the students easier. In the first step, students play with riddles, answer questions, and spin interactive maps: the young users are indeed called to decide the fate of the narrative by stepping into the foreground as characters in the story. In the second step, students are instead stimulated to deepen the reconstruction of temples thanks to some visual and audio materials. Some buttons and icons can be used to enrich the experience by zooming on specific parts. At the end of the two interactions, a final confrontation between each group and its corresponding teacher is imagined getting some suggestions and curiosities for educative purposes.

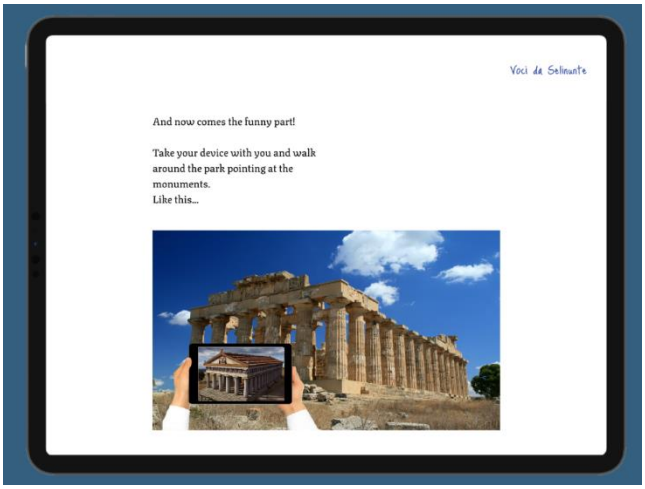

Figure 16: Example 1 of the implementation with Figma

Figure 17: Example 2 of the implementation with Figma

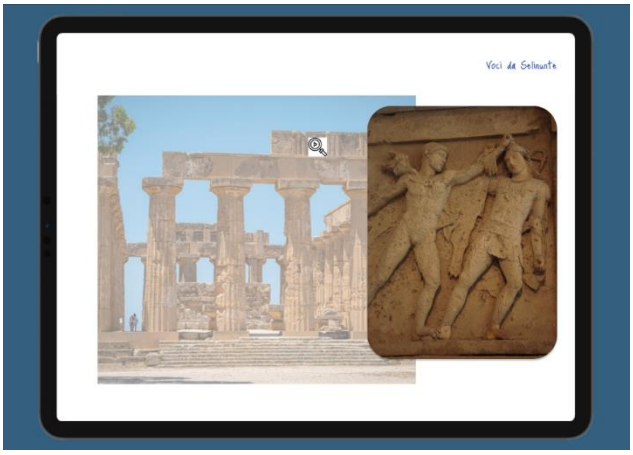

Figure 18: Example 3 of the implementation with Figma

7. Foreseen workflow

The project presented so far is explicitly designed to take place in Selinunte archaeological park. Since the AR technologies are implemented specifically for the reconstruction of the city and are enabled while scanning the real ruins, the same visiting experience should be revised to be replicated in other similar contexts (i.e. Valle dei Templi, Segesta). Therefore, this project could be taken as an example of its structure and main features to be personalized.
Apart from this aspect, the project takes advantage of the use of devices like tablets that are simple to manage, cost-effective, and easy to maintain. These requirements fit well with a project in its starting stage where lower costs are needed together with an ease of use that doesn't require high expertise.
Focusing on the in-site visit, the tablets are given by the Institution of the park. The number of devices is around 15 units to let at most two classes live the experience at the same time. The relatively small number of tablets is thought to have controlled maintenance and to guarantee smoothly functioning technological infrastructures.

8. Disruption and further development

The first weakness of our project concerns the only implementation of the eastern part of the archaeological park having missed out on the two other paths (i.e. middle and western parts). To achieve a complete visit experience and to make the whole archaeological park known, in the future, we aim to develop the remaining paths. Unlike the first path which was intended to be focused on decorative Greek art, the one in the middle part will focus on the habits and customs of Ancient Greece while the third concerning the western part will provide an in-depth analysis of the Selinuntine cult.

Another weak point is the use of the tablet as the only device for the visit. We stressed during our project design the importance of AR technologies to create an authentic experience that can give something more than traditional lectures provided at school and stimulate curiosity and desire for learning. In this way, the use of other AR tools, like the headset, could enrich the visit and challenge students who may be approaching this type of tool for the first time. Moreover, teachers who are more reluctant to use these kinds of new technologies could understand their usefulness for such educational experiences.

The main challenge to face is the acquisition of more participation in these kinds of experiences: most of the time, such kinds of visits are disregarded by both teachers and parents because they do not think they can be educational. For achieving more educational purposes and not forgetting our young audience, it could be useful to think about a more interactive visit part that can go beyond the simple activation of buttons and icons and help students to feel more involved in the experience. An interactive part including teamwork and roles, could lead to greater collaboration and co-creation among students. A proper game could also be developed since there are plenty of themes and elements to be used to create an entertaining educational experience. Think for example a treasure hunt game all around the park, or the possibilities connected with the myth represented in the metopes.

Connected to this, our last proposal for improvement concerns the restoration of the metopes. As we stated in Par. 6, we preserve only some of the overall amount of the original metopes and the preservation (most of it in the Archaeological Museum of Palermo) concerns different states of conservation. As a further development, our goal is to make a digital restoration of the metopes thanks to dedicated tools and a digital animation of the scenes.

9. Team's roles and work

The following table associates each member with their field of responsibility. As can be seen, the work was divided into equal parts between the members, without relevant distinction in tasks, and the project was carried out in full collaboration and help when little adjustment was needed.

Team member	Project conception and development	Design Brief
Maria Francesca Bocchi	• Workflow Design • Personas Design: first and second persona. • Conceptual map (1). • Figma implementation prototype: second part with images and examples of AR and audio activation. • Twine scenario: embedding of IIIF interactive map and images, writing of the initial and the final passages of the story.	• Par. 1 • Par. 2.2 • Par. 2.3 • Par. 3 (first and second personas) • Par. 5 • Par. 6.1 • Par. 7
Enrica Bruno	• Workflow Design • Personas Design: third and fourth persona. • Conceptual map (2) and Interaction Diagram. • Figma implementation prototype: the first part with historical intro. • Twine scenario: embedding of the audio files and JavaScript code, writing of the central passages of the story.	• Par. 2.1 • Par. 2.4 • Par. 3 (third and fourth personas) • Par. 4 • Par. 6.2 • Par. 7 • Par. 8

10. UX Scenario

The link to the UX Scenario is attached below:
https://github.com/enricabruno/voci_da_selinunte/tree/main/voci_da_selinunte/prototype_twine

Twine has been used to create digital storytelling with interactive parts where users are called to make decisions and play a little with maps and simple games. To implement these features, apart from the use of Twine's building blocks,

we integrated other elements like JavaScript code (for the riddle game), IIIF images and tool for interacting with them (for the interactive map) and links to external audio recordings (for the voices of Greek ancient authors).

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